

I claim:

1. A biopsy needle for obtaining a sample of tissue within the plural cavity of a patient, said biopsy needle comprising a outer tube having a distal end, a proximal end and a central canal therethrough, said distal end having at least one opening formed in said outer tube proximate the distal end thereof, an inner tube interfitted within said outer tube, said inner tube having a distal end adapted to be located at about the distal end of said outer tube and a proximal end accessible to a user at the proximal end of said outer tube, said inner tube being axially movable within said outer tube, at least one articulating member affixed to the distal end of said inner tube, said at least one articulating member being movable between a retracted position within said outer tube and an extended position where said at least one articulating member extends outwardly through said at least one opening in said outer tube.

2. A biopsy needle as defined in claim 1 wherein said at least one articulating member is moved between said retracted position and said extended position by manipulation of said proximal end of said inner tube.

3. A biopsy needle as defined in claim 2 wherein said proximal end of said inner tube extends axially outwardly from said proximal end of said outer tube so as to allow the manipulation of said proximal end of said inner tube.

4. A biopsy needle as defined in claim 3 wherein said proximal end of said inner tube is formed as an enlarged handle for manipulation by a user.

5. A biopsy needle as defined in claim 1 wherein distal end of said outer tube is pointed.

6. A biopsy needle as defined in claim 1 wherein said outer tube has a longitudinal axis and said at least one articulating member moves outwardly to a position approximately 90 degrees to the longitudinal axis of said outer tube.

7. A biopsy needle as defined in claim 1 wherein said outer tube has two openings in said outer tube and said at least one articulating member comprises two articulating members.

8. A biopsy needle as defined in claim 7 wherein said openings are located about the periphery of said outer tube at about 180 degrees apart.

9. A biopsy needle as defined in claim 7 wherein at least one of said articulating members has a cutting edge thereon.

10. A biopsy needle as defined in claim 7 wherein said at least one of said articulating members has a brush edge thereon.

11. A biopsy needle as defined in claim 7 wherein one of said articulating member has a cutting edge thereon and the other of said articulating member has a brush formed thereon.

12. A biopsy needle as defined in claim 1 wherein distal end of outer tube has an internal elongated opening, and said inner tube has a needle shaped end that movably fits within said internal elongated opening to stabilize the axial movement of said inner tube with respect to said outer tube.

13. A biopsy needle for obtaining a sample of tissue within the plural cavity of a patient, said biopsy needle comprising a outer tube having a distal end, a proximal end and a central canal therethrough, said distal end having at least one opening formed in said outer tube proximate the distal end thereof, an inner tube interfitted within said outer tube, said inner tube having a distal end adapted to be located at about the distal end of said outer tube and a proximal end accessible to a user at the proximal end of said outer tube, said inner tube being axially movable within said outer tube, an end tube affixed to the distal end of said inner tube, said end tube having at least one articulating member movably affixed thereto, said at least one articulating member being movable between a retracted position within said outer tube and an extended position where said at least one

articulating member extends outwardly through said at least one opening in said outer tube.

14. A biopsy needle as defined in claim 13 wherein said end tube is T-shaped and said at least one articulating member comprise two articulating members extending from said upper legs of said T-shaped end tube.

15. A biopsy needle as defined in claim 14 wherein said end tube has an axial needle shaped end extending therefrom and said distal end of said outer tube has an elongated recess formed therein, said axially extending needle of said end tube adapted to slidingly interfit within said elongated needle to guide the axial movement of said inner tube.

16. A biopsy needle as defined in claim 13 wherein proximal end of said outer tube is sealed by a outer tube cover and wherein said proximal end of said inner tube passes through the outer tube cover.

17. A biopsy needle as defined in claim 16 wherein outer tube cover is threadedly affixed to the proximal end of said outer tube.

18. A biopsy needle as defined in claim 16 wherein said outer tube cover has outwardly extending wings extending outwardly therefrom.

17. A biopsy needle as defined in claim 18 wherein proximal end of said inner tube is enlarged to form a handle to allow manipulation of said inner tube by a user..

18. A biopsy needle as defined in claim 13 wherein said inner tube includes a stop means to limit the axial movement of said inner tube outwardly from said outer tube.

19. A biopsy needle as defined in claim 13 wherein stop means comprises a enlarged diameter member affixed to said inner tube that engages said outer tube cover when said inner tube is moved outwardly with respect to said outer tube.

2009-06-24 10:00:00

20. A biopsy needle as defined in claim 13 wherein said outer tube has two openings in said outer tube and said at least one articulating member comprises two articulating members.

21. A biopsy needle as defined in claim 20 wherein at least one of said articulating members has a cutting edge formed thereon.

22. A biopsy needle as defined in claim 20 wherein said at least one of said articulating members has a brush edge thereon.

23. A biopsy needle as defined in claim 20 wherein one of said articulating member has a cutting edge thereon and the other of said articulating member has a brush formed thereon.

24. A biopsy needle as defined in claim 20 wherein said outer tube has a flexible tube affixed at about the proximal end thereof, said flexible tube communicating with the interior area of said outer tube and having a connector affixed to a free end of said flexible tube to remove fluids from a patient.

25. A method of obtaining a sample of tissue from the pleural cavity of a patient, said method comprising the steps of:

providing a needle having a distal end with at least one articulating member movable between a retracted position to an extended position extending outwardly from the distal end of the needle,

inserting the needle into a patient such that the distal end of the needle is locate within the pleural cavity of a patient,

extending the at least one articulating member outwardly from the distal end of the needle,

adjusting the location of the needle to cause the articulating member to contact the parietal pleura of a patient,

moving the at least one articulating member to pick up a sample of the pleura onto the at least one articulating member,

retracting the at least one articulating member to the retracted position,

10078903 03 1 992

removing the needle from the patient to collect a sample of the pleura adhered to the at least one articulating member.

26. A method of obtaining a sample of tissue from the pleural cavity of a patient as defined in claim 25 wherein said step of moving the at least one articulating member comprises rotating the needle to move the at least one articulating member in a rotary path.

27. A method of obtaining a sample of tissue from the pleural cavity of a patient as defined in claim 25 wherein said step of providing a needle comprises providing a needle having a retracted position wherein said at least one articulating member is fully contained within the needle.

28. A method of obtaining a sample of tissue from the pleural cavity of a patient as defined in claim 25 wherein said step of providing a needle comprises providing a needle having two articulating members

29. A method of obtaining a sample of tissue from the pleural cavity of a patient as defined in claim 28 wherein said step of providing a needle comprises providing a needle having one articulating member having knife edge formed thereon and the other articulating member having a brush edge formed thereon.

30. A method of obtaining a sample of tissue from the pleural cavity of a patient as defined in claim 25 wherein said step of providing a needle comprises providing a needle having an articulating member having a knife edge formed thereon.

31. A method of obtaining a sample of tissue from the pleural cavity of a patient as defined in claim 25 wherein said step of providing a needle comprises providing a needle having an articulating member having a brush edge formed thereon.